Fermilab

MI60 RF and Cavity LCW Controls Alarm Summary

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MI60 LCW Pump Room Annunciator Panel

C300 - POND 1A SHUTDOWN
1A differential pressure is low
1A overtemperature
RUN contact from the MCC does not match 1A run-status, indicating that the MCC has stopped the motor

C301 - POND 1B SHUTDOWN
1B differential pressure is low
1B overtemperature
RUN LOW SPEED contact from the MCC does not match 1B low-speed-select, indicating that the MCC has stopped the motor
RUN HIGH SPEED contact from the MCC does not match 1B high-speed-select, indicating that the MCC has stopped the motor

C302 - 95° R01 SHUTDOWN
RF expansion tank level is dry
R01 differential pressure is low
RUN contact from the MCC does not match R01 run-status, indicating that the MCC has stopped the motor

C303 - 95° R02 SHUTDOWN
RF expansion tank level is dry
R02 differential pressure is low
RUN contact from the MCC does not match R02 run-status, indicating that the MCC has stopped the motor

C304 - 95° R03 SHUTDOWN
RF expansion tank level is dry
R03 differential pressure is low
RUN contact from the MCC does not match R03 run-status, indicating that the MCC has stopped the motor

C305 - 95° R04 SHUTDOWN
RF expansion tank level is dry
R04 differential pressure is low

RUN contact from the MCC does not match R04 run-status, indicating that the MCC has stopped the motor

C306 - CAV C02 SHUTDOWN
Cavity expansion tank level is dry
C02 differential pressure is low
RUN contact from the MCC does not match C02 run-status, indicating that the MCC has stopped the motor

C307 - CAV C03 SHUTDOWN
Cavity expansion tank level is dry
C03 differential pressure is low
RUN contact from the MCC does not match C03 run-status, indicating that the MCC has stopped the motor

C310 - 95° RF COND.
RF LCW conductivity is low (from RF conductivity meter)

C311 - 95° RF TANK HIGH
RF expansion tank level is over the top sensor

C312 - 95° RF TANK LOW
RF expansion tank level is between the two bottom sensors

C313 - 95° RF TANK DRY
RF expansion tank level is below the bottom-most sensor

C314 - CAVITY COND.
Cavity conductivity is low (from cavity conductivity meter)

C315 - CAVITY TANK HIGH
Cavity expansion tank level is over the top sensor

C316 - CAVITY TANK LOW
Cavity expansion tank level is between the two bottom sensors

C317 - CAVITY TANK DRY
Cavity expansion tank level is below the bottom-most sensor

C320 - POND VAULT HIGH
The pond vault float switch is tripped (not active)

C321 - MCC FAULT
The Motor Control Center is asserting a fault

C322 - AIR PRESSURE
Expansion tank air pressure is low

C323 - INHIBIT TIMER ON/PLC ERROR
If the lamp is on steady, the RF motor start-inhibit timer is running; no other RF motors may be started while the timer is running. If the lamp is flashing, the PLC has detected an internal error

C324 - POND 1A OVRTMP
Pond 1A motor is hot

C325 - POND 1B OVRTMP
Pond 1B motor is hot

C326 - POND PRESSURE
Pond differential pressure is low

C327 - POND 1B HI SPEED
High speed operation is selected for 1B.

ACNET Signals (via Sixtrak Magnet LCW Controls)

Motor-Run contact status (These are not trip indications; each run-status is active if the corresponding motor is energized and inactive when the motor is stopped):
R01 RUNNING
R02 RUNNING
R03 RUNNING
R04 RUNNING
R06 RUNNING
R07 RUNNING (goes directly to Sixtrak from MCC; does not pass thru PLC)
C02 RUNNING
C03 RUNNING

POND PRESSURE FAULT
Pond differential pressure is low (same as C326)

AIR PRESSURE LOW
Expansion tank air pressure is low (same as C322)

MCC ANNUNCIATOR
The Motor Control Center is asserting a fault (same as C321)

FIRUS Alarms

R01 SHUTDOWN (same as C302)

R02 SHUTDOWN (same as C303)
R03 SHUTDOWN (same as C304)
R04 SHUTDOWN (same as C305)
R06 SHUTDOWN (same as C300)
R07 SHUTDOWN (same as C301)
C02 SHUTDOWN (same as C306)
C03 SHUTDOWN (same as C307)
95° RF CONDUCTIVITY (same as C310)
CAVITY CONDUCTIVITY (same as C314)
AIR PRESSURE LOW (same as C322)
POND PRESSURE LOW (same as C326)
MCC (same as C321)
RF TANK DRY (same as C313)
RF TANK HIGH (same as C311)
RF TANK LOW (same as C312)
CAVITY TANK DRY (same as C317)
CAVITY TANK HIGH (same as C315)
CAVITY TANK LOW (same as C316)
POND 1A OVERTEMP (same as C324)
POND 1B OVERTEMP (same as C325)

HARDWARE TIME_OUT TIMER EXPIRED
The PLC did not reset the hardware timer before the timer expired; the PLC may not be functioning properly

RF System Watchdog Outputs

95° RF CONDUCTIVITY (same as C310)
CAVITY CONDUCTIVITY (same as C314)